海相下三迭統空棘鱼化石在
我国广西的发现

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1963年5月，笔者收到一批采自广西凤山、东兰一带的动物化石。这批化石几乎全部是海生无脊椎动物，其中仅有一块是鱼化石，属于空棘鱼类。它与上述化石同产于同一层位中，根据采集者的野外标签记载，这批化石产于下三迭统罗楼组。空棘鱼类化石最早地质记录是产于泥盆纪地层，在白垩纪以后的地层中再也没有发现该类鱼类化石。因此，人们认为它们在中生代末期已经灭绝。1938年，在非洲东海岸发现了该类鱼的现生代表——拉蒂迈鱼（Lasimeria），才改变了对这类鱼的认识。不过，这一分布很广的鱼类化石，在亚洲还很少发现，仅在亚洲西部白垩纪地层中找到过。此次在我国南部下三迭统地层中发现的化石，不仅代表空棘鱼类化石在我国的首次发现，也表明这类鱼在亚洲东部有过一定的发展和分布。这一发现在研究空棘鱼的系统分类和地理分布上都有很大意义。

标本记述

总鳍鱼目Crossopterygii
空棘鱼亚目Coelacanthini
中华空棘鱼属Sinicoelacanthus, gen. nov.

属的特征：同属型种。

凤山中华空棘鱼Sinicoelacanthus fengshanensis, gen. et sp. nov.

（图版1，图1-2）

标本：一不完整的尾部，保存有尾鳍的背叶、腹叶和中叶及少许鳞片。野外编号：抗KI.12a；标本地层号：V.2895。

产地和层位：广西凤山及东之下三迭统罗楼组。

特征：尾鳍大，背、腹叶鳍条数多，且远端不膨大。中叶短小，不显著地突出。鳞片略呈椭圆形，有少许突脊。

标本描述：标本为尾部的末尾部分，保存有尾鳍的背叶、腹叶及中叶。背叶的前部有些缺失，保存鳍条26根。鳍条长，远端残缺，但由鳍形整体看，估计所缺不多。鳍条近端分节疏，节距长；远端分节密，由近及远节距逐渐变短。背叶鳍条自前向后排列间隔逐次加大，尤以近中叶处更为显著；鳍条伸展方向与尾轴约成45°-40°夹角。尾鳍腹叶基端保存较好，只远端有所缺失，鳍条多达39根，分节密，节距短，各鳍条排列也比较紧密，伸展方向与尾鳍夹角也较小。
古脊椎动物与古人类

背、腹叶基前部保存的支持骨短小，近端膨大。尾柄窄，自尾鳍的背腹叶基中部向后越来越大，向前直接连接着中叶鳍条。中叶不十分突出，中叶前部尾柄上下侧各有3根排列疏远，近于与尾轴垂直的鳍条。在其后的鳍条又呈一般延伸方向，变长，排列密密，形成一小尾鳍，即常称所称的附加尾鳍（Supplementary caudal fin）。广西标本的中叶末端虽有缺失，但中叶求鳍中叶与背叶腹叶的比例来看，中叶相当短小。在这一标本可见到脊索痕迹贯穿尾柄前端。尾柄的鳞片保存不佳，轮廓不清晰，略呈椭圆形，尖端向后，表面有少许短的圆突。

另在尾柄上及尾鳍腹叶前方处保存有不完整的大鳞片，略呈椭圆形，有密集而清晰的同心圆纹及放射纹（图版1，图2），可能属于身体前部的。

比较和讨论：从广西这一标本的尾部特征，如鳍条远端不膨大，上无突起或小刺，背、腹叶鳍条的排列形式等与空棘鱼属（Coelacanthus）的有些近似。但由其尾鳍背、腹叶相当大，中叶短小，与空棘鱼属者明显不同。在鳍条的分节部分很长，节距较短，与Laugia者有所相似，而后的鳍条数目少，且背、腹叶鳍条的排列间隔一致，中叶细长而显著突出，可与广西标本区分。广西的标本，由其尾鳍大、鳍条数目多、中叶不显著突出等特征，与已知种属皆有不同，它代表一新空棘鱼类。不过，由于标本只是尾部，其他如头胸、身体以及其他空棘的形态都不知道，不能与他属者比较。然其上述特征与空棘鱼属者相似，代表该类鱼化石在我国的初次发现，今命名为凤山中华空棘鱼（Sinocoelecanthus jengshansi，gen. et sp. nov.）该属特征的补充，尚有待更多材料的获得。

空棘鱼类的发展历史，由已知记录看，当泥盆纪时它们生活在淡水及海水中。它们可能起源于淡水水域，泥盆纪时进入海域中（Schaeffer，1953）。所知的石炭—二迭纪的代表皆发现于淡水沉积中（Moy-Thomas，1937）。三迭纪的化石在海陆相沉积中皆有发现，说明中生代早期它们有一部分回到海水中，自此以后，不言化石种属还是现存代表，皆是在海域中发现的。广西的标本是在海相地层中发现的，同层位中有大量菊石化石。

最后，对广西凤山地质队采集标本，付出辛勤劳动，把标本交与我们研究；周明镜先生热心提供宝贵意见，在此一并致以谢意。

参考文献


A NEW COELACANTH FROM THE MARINE LOWER TRIASSIC OF N. W. KWANGSI, CHINA

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A fossil collection from K'angtung, Fengshan, Kwangsi contains a great number of more complete specimens of marine invertebrates, mostly ammonites. Among these specimens there is a piece of fish fossil. It is very imperfect, consisting only of the caudal portion. Since no Coelacanths have as yet been found in China, therefore the discovery of this kind of fish in the Lolou Triassic is of unusual interest.

DESCRIPTION OF SPECIMEN

Order Crossopterygii
Suborder Coelacanthini
Genus Sinocoelacanthus, gen. nov.

Sinocoelacanthus fengshanensis, gen. et sp. nov.
(Pl. 1, figs. 1-2)

Specimen: An incomplete specimen, displaying great part of caudal fin. Field No. KL12a; Cat. No. V.2895 of IVPP.

Horizon and Locality: Lower Triassic. K'angtung, Fengshan District, Kwangsi Province.

Specific characters: Caudal fin large. Principal fin comprising more than 60 lepidotrichia dorsal and ventral. Supplementary fin fairly short and small.

Description: The caudal part comprises the dorsal, ventral and middle lobes. The exact number of lepidotrichia of dorsal lobe is not known, for the anterior part is lacking. The preserved portion consists of 26 lepidotrichia. Ventrally, they are 39 in number. The lepidotrichia are long, narrow and not expanded distally, and jointed for a fairly long distance distally. The joints are longer on proximate portion than those on distal. All of them are smooth throughout their length.

The dorsal and ventral lobes are not symmetrical in position. The origin of dorsal is perhaps more anterior than that of the ventral. The lepidotrichia of dorsal lobe are more widely spaced, than those of the ventral in which they are more crowded to one another. The notochord, running between the large dorsal and ventral lobes, extends into the middle lobe.

The middle lobe was imperfectly preserved, lacking the tip. On its dorsal and ventral sides there are several short, slender lepidotrichia and some longer ones around the tip of the middle lobe. The middle lobe is rather short, shorter than those in the other genera. It protrudes only slightly beyond the posterior margin of the principal fin, and therefore is not prominent.

Scales of pedicle are in such a state of preservation that their outlines are difficult
to distinguish. They are longer than high and somewhat oval-shaped; and their surfaces
are ornamented with a few low, short tubercles, disposed mainly in a rostro-caudal direc-
tion.

In addition, there are two detached scales found near the front margin of ventral
lobe and on caudal pedicle. They are ornamented with fine circli and radiative stria-
tions. Whether they belong to this specimen, or not is not sure.

Remarks: The characters of the above described caudal fin resemble somewhat to
those of Coelacanthus, but the large number of lepidotrichia in both dorsal and ventral
lobes has never been recognized in any known coelacanthian genera. Its short supple-
mentary caudal fin, and the shape and ornamentation of scales are also unique.

At present it is impossible to decide with certainty whether this specimen belongs
to any of the known genera and a new generic name—Sinocoelacanthus is proposed.

The diagnosis of this new genus, Sinocoelacanthus, which, of course, must be quite
incomplete at present, is provisionally given as follows:

Caudal fin large, principal fin comprising numerous lepidotrichia dorsally and ven-
trally. Lepidotrichia of the dorsal and ventral not equally spaced, more sparsely ar-
ranged in the dorsal and compactly in the ventral lobe. Middle lobe short, not extend-
ing far backwards.
凤山中华棘鱼（*Sinocelacanthus fengshanensis* gen. et sp. nov.）
1. 不完整的尾部（An imperfect caudal portion），标本登记号：Cat. No. V. 2895, ×1.5。
2. 螳片（Imperfect detached scale），×12。
PRELIMINARY REPORT ON A NEW SPECIES OF
LYSTROSAURUS OF SINKIANG

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A collection of Permian-Triassic reptiles was discovered from Sinkiang in 1963, in which, lystrosaurs were the majority. Among the prepared specimens, there is a small skeleton of Lystrosaurus well preserved in hard concretions. It is a young individual and differs apparently from the other species.

This specimen occurred at Tung-Hsiao-Lung-Kou, Jimusar, from the Lystrosaurus zone of the early Triassic.

The skull is 122 mm in total length. It is characterized by the smooth curvature of the frontal and nasal regions, the less developed prefrontals and the flat frontals. Orbits are large, not protrude above the level of the dorsal surface of the skull. Nasal openings situate somewhat anteriorly, no prominent post-narial grooves. Alveolar regions extend downward, with undeveloped tusks.

This specimen represents a fourth species from Sinkiang and a new name—Lystrosaurus youngi is proposed.

The new species is quite similar in outline to L. curvatus in the smoothly curved facial region without mid-orbital ridge. But it shows its more primitive features in having unlifted orbits and unconcaved frontals.

To the primitive representatives—L. primiticus and L. oviceps, our species is distinguished by its more Lystrosaurus-like snout. The other known species from Sinkiang are distinct in having clear mid-orbital ridge, smaller orbits and posteriorly located nares.

The detail description will be given later.